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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,183	12/31/2003	Atsushi Umeda	111969.01	5575
25944	7590	09/03/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			PHAM, LEDA T	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/748,183

Applicant(s)

UMEDA, ATSUSHI

Examiner

Leda T. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/03, 5/04, 6/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Preliminary Amendment***

Preliminary Amendment filed on 12/31/03 has been entered and made of record in the file. Claims 1 – 12 are presented for examination.

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “pair of sub-phase windings” in claim 1, the windings connection in claim 6 between “three of the phase windings” with the “first portion” and the “second portion”, and between “remaining three of the phase windings” with the “first section” and the “second section” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified

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and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: “a pair of sub-phase windings”, the connection of the windings in claim 6 between “three of the phase windings”, “first section”, “second section”, and “remaining three of the phase windings” have not described in the specification.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 1, “a pair of sub-phase windings” has not described in the specification for one skilled in the art to understand how “each of first and second armature windings comprises  $\Delta$ -connected three sub-phase windings having three junctions”. The windings connection of the “three of the phase windings” and the “remaining three of the phase windings” with the “first section” and the “second section” also have to clearly describe in the specification.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, "six phase-windings are  $\pi/3$  in electrical angle from each other" is indefinite because in the specification the phase angle is  $\pi/6$  different from each other, and "a pair of sub-phase windings" is indefinite because it is unclear how is the connection of three sub-phase windings with the first and second armature windings.

In claim 6, the connection of "three of the phase windings" with the first and second section is unclear because the drawing does not show this feature for one skilled in the art to understand the subject matter. It is also the same subject matter with the "remaining three of the three phase windings"

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

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do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. Claims 1 – 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Liang et al (U.S. Patent No. 6,570,289 B1).

Referring to claim 1, Liang teaches a rotary electric machine including a cylindrical stator core, an armature winding mounted in said stator core (figure 3),

wherein said armature winding comprises six phase-windings ( two set of three phase windings is six phase windings) which are  $\pi/6$  in electric angle different from each other and form a first three-phase armature winding having three first output terminals which are  $2\pi/3$  in electric angle different from each other and a second group of second three-phase armature windings having three second output terminals which are  $2\pi/3$  in electric angle different from each other;

wherein each of said six phase-windings comprises a pair of sub-phase windings; and

wherein each of said first and second armature windings comprises  $\Delta$ -connected three sub-phase-windings having three junctions that are  $2\pi/3$  in electric angle different from each other and three sub-phase-windings respectively connected in series between the three junctions and the first and second output terminals (figure 5).

Referring to claim 2, Liang teaches the rotary electric machine, wherein said three first output terminals and said three second output terminals are different in phase from each other (figure 5).

Referring to claim 3, Liang teaches the rotary electric machine, further comprising a full-wave rectifier unit connected to said first and second output terminals (302, figure 5).

Referring to claim 4, Liang teaches the rotary electric machine, wherein each of said phase-windings comprises a plurality of conductor segments, and wherein said stator core has a plurality of slots each of which accommodates four conductor segments (figure 3 – 4).

Referring to claim 5, Liang teaches a rotary electric machine comprising:  
a cylindrical stator core (figure 3); and  
a pair of armature windings mounted in said stator core (300);  
wherein each said armature winding has a first group of  $\Delta$ -connected three phase windings having junctions that are  $2\pi/3$  in electric angle different from each other and a second group of three phase-windings having output ends that are  $2\pi/3$  in electric angle different from each other and input ends respectively connected in series to said junctions of said first group (figure 5).

Referring to claim 6, Liang teaches a rotary electric machine having six phase windings arranged in different electric angles, the rotary electric machine comprising:

a first three-phase winding including a  $\Delta$ -connected portion and a wye connected portion, windings of the wye connected portion extending from three ends of the  $\Delta$ -connected portion respectively; and

a second three-phase winding including a  $\Delta$ -connected portion and a wye connected portion, windings of the wye connected portion extending from three terminal ends of the  $\Delta$ -connected portion respectively, wherein

each of the phase windings comprising a first section and a second section,

three of the phase windings comprising the first section providing the  $\Delta$ -connected portion of the first three-phase winding and the second section providing the wye connected portion of the second three-phase winding, and

remaining three of the phase windings comprising the first section providing the wye connected portion of the first three-phase winding and the second section providing the  $\Delta$ -connected portion of the second three-phase winding (figure 5).

Referring to claim 7, Liang teaches the rotary electric machine, wherein the former three of the phase windings are arranged alternately within six of the phase windings, and the latter three of the phase windings are also arranged alternately within six of the phase windings.

Referring to claim 8, Liang teaches the rotary electric machine, wherein three-phase outputs of the first three-phase winding and three-phase outputs of the second three-phase winding are shifted with respect to the electric angle (figure5).

Referring to claim 9, Liang teaches the rotary electric machine, further comprising a full-wave rectifier connected with six phase outputs provided by the first and second three-phase winding (302).

Referring to claim 10, Liang teaches the rotary electric machine, further comprising a stator core having a plurality of slots, each slot accommodating four conductors providing one of the phase windings (figure 3 – 4).

Referring to claim 11, Liang teaches the rotary electric machine, wherein all of the phase windings are divided into the first section and the second section with the same ratio (figure 4).

Referring to claim 12, Liang teaches the rotary electric machine, wherein all of the phase windings are evenly divided into the first section and the second section.



***Conclusion***

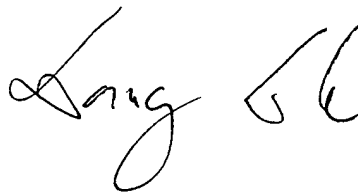
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leda T. Pham whose telephone number is (571) 272-2032. The examiner can normally be reached on M-F (8:30-6:00) first Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Leda T. Pham  
Examiner  
Art Unit 2834

LTP  
August 23, 2004



**DANGLE  
PRIMARY EXAMINER**